<u>Amendments to the Claims</u>:

Please amend claims 1 and 34, all as shown below.

1. (Currently Amended) A method for shaping a surface of a workpiece, comprising:

placing the workpiece in a plasma processing chamber including an inductively-coupled plasma (ICP) torch having an outer tube to communicate a plasma gas to a distal end of the plasma torch<u>, a coil surrounding the distal end of the outer tube,</u> and an inner tube nested within the outer tube to communicate a reactive precursor to the distal end;

translating at least one of the workpiece and the plasma torch; and

communicating the plasma gas to the distal end;

generating a plasma discharge by ~~transferring energy from~~ <u>applying current from</u> a radio frequency (RF) power source <u>to the coil</u> to excite the plasma gas, wherein a plasma sheath is formed between the distal end and the plasma discharge; and

introducing the reactive precursor to the plasma discharge through the inner tube to generate a reactive species;

~~sustaining the plasma discharge through collisions between the excited precursor and the plasma gas;~~ and

shaping the surface of the workpiece ~~by~~ <u>using the reactive species within the plasma discharge;</u>

controlling a ~~footprint of~~ <u>distribution of reactive species within</u> the plasma discharge ~~from the plasma torch~~; and

directing the plasma discharge to a target portion of the surface of the workpiece.

2. (Previously Presented) A method according to claim 1, wherein the step of shaping the surface of the workpiece comprises causing minimal or no damage to the workpiece underneath the surface.

3. (Previously Presented) A method according to claim 1, wherein the step of shaping the surface of the workpiece comprises removing material from the surface of the workpiece.

4. (Original) A method according to claim 1, further comprising:

rotating the workpiece with respect to the plasma torch.

5. (Previously Presented) A method according to claim 1, wherein the step of the plasma discharge includes directing the reactive species to the target portion.

6. (Previously Presented) A method according to claim 1, further comprising:
placing the reactive precursor in a central channel of the plasma torch.

7. (Canceled)

8. (Previously Presented) A method according to claim 1, further comprising:
using an argon gas as the plasma gas.

9. (Previously Presented) A method according to claim 1, further comprising:
controlling the mass flow of the reactive precursor into the plasma torch.

10. (Previously Presented) A method according to claim 1, further comprising:
controlling the mass flow of the reactive precursor into the plasma torch from between about 0 ml/min to about 2,000 ml/min.

11. (Previously Presented) A method according to claim 1, further comprising:
controlling the mass flow of the reactive precursor into the plasma torch from between about 0 ml/min to about 50,000 ml/min.

12. (Previously Presented) A method according to claim 1, further comprising:
selecting a concentration of the reactive precursor to be introduced into the plasma discharge.

13. (Canceled)

14. (Previously Presented) A method according to claim 1, further comprising:
coupling the RF energy to the plasma discharge in an annular region of the plasma torch.

15. (Previously Presented) A method according to claim 1, wherein the plasma torch includes an intermediate tube arranged between the outer tube and the inner tube, the method further comprising:

introducing an auxiliary gas into the intermediate tube.

16. (Previously Presented) A method according to claim 15, further comprising:
using the auxiliary gas to keep the plasma discharge away from the inner tube.

17. (Previously Presented) A method according to claim 15, further comprising:
using the auxiliary gas to adjust the position of the plasma discharge relative to the distal end.

18. (Previously Presented) A method according to claim 1, further comprising:
controlling the size of the plasma discharge by selecting the inner diameter of an outer tube of the plasma torch.

19. (Previously Presented) A method according to claim 1, further comprising:
communicating the plasma gas to the outer tube tangentially to form a vortex.

20. (Previously Presented) A method according to claim 1, further comprising:
metering the precursor and/or the plasma gas flow in the plasma torch.

21. (Previously Presented) A method according to claim 1, further comprising:
maintaining the temperature of the plasma torch between 5,000 and 15,000 degrees C.

22. (Previously Presented) A method according to claim 1, further comprising:
producing a volatile reaction product on the surface of the workpiece.

23. (Original) A method according to claim 1, further comprising:
maintaining the processing chamber at about atmospheric pressure.

24. (Previously Presented) A method according to claim 1, further comprising:
cleaning the surface of the workpiece with the plasma torch.

25. (Previously Presented) A method according to claim 1, further comprising:

polishing the surface of the workpiece with the plasma torch.

26. (Previously Presented) A method according to claim 1, further comprising:
planarizing the surface of the workpiece with the plasma torch.

27. (Previously Presented) A method according to claim 1, further comprising:
using a plasma torch with a multiple head to increase an etch rate of the plasma torch.

28. (Previously Presented) A method according to claim 1, further comprising:
using the precursor to control an etch rate of the plasma torch.

29. (Previously Presented) A method according to claim 28, wherein:
the precursor is any one of a solid, liquid, and gas.

30.-33. (Canceled)

34. (Currently Amended) A method for shaping an optic, comprising:
placing an optic workpiece in a plasma processing chamber including an inductively-coupled plasma (ICP) torch having an outer tube to communicate a plasma gas to a distal end of the plasma torch, a coil surrounding the distal end of the outer tube, and an inner tube nested within the outer tube to communicate a reactive precursor to the distal end;
translating at least one of the optic workpiece and the plasma torch; and
communicating the plasma gas to the distal end;
generating a plasma discharge by ~~transferring energy from~~ applying current from a radio frequency (RF) power source to the coil to excite the plasma gas, wherein a plasma sheath is formed between the distal end and the plasma discharge; and
introducing the reactive precursor to the plasma discharge through the inner tube to generate a reactive species;
~~sustaining the plasma discharge through collisions between the excited precursor and the plasma gas;~~ and
shaping the surface of the optic workpiece ~~by~~ using the reactive species within the plasma discharge;

controlling a ~~footprint of~~ distribution of reactive species within the plasma discharge ~~from the plasma torch~~; and

directing the plasma discharge to a target portion of the surface of the optic workpiece.

Claims 35.-41. (Canceled)